

Summary:

**Biomass Research & Development
Technical Advisory Committee
Meeting**

September 29, 2004

December 20, 2004

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Agriculture

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Meeting Summary

A. Purpose

On September 29, 2004, a Biomass Research and Development Technical Advisory Committee (Committee) meeting was held at the Hilton Crystal City Hotel in Arlington, Virginia. The Committee was established by the Biomass R&D Act of 2000 (Biomass Act). The Committee's mandates under the Biomass Act include advising the Secretary of Energy and the Secretary of Agriculture, facilitating consultations and partnerships, and evaluating and performing strategic planning. This meeting was the third Committee meeting held during the 2004 calendar year. The Committee members came to the meeting to hear presentations on US Department of Agriculture (USDA) and Department of Energy (DOE) strategic direction and on the results of the subcommittee established during the previous meeting to analyze the biomass R&D portfolios of USDA and DOE. The Committee also met to review the draft recommendations on the 2004 joint solicitation process, the 2005 joint solicitation technical topic areas, and the overall 2004 recommendations to the Secretaries of Energy and Agriculture that were developed at the July 13 – 14, 2004 meeting, and to finalize those recommendations. Finally, the Committee began developing topics for the 2005 Committee Work Plan.

B. Welcome and Overview of the Agenda

The meeting was chaired by Thomas Ewing, Committee Chair, and Terry Jaffoni, Vice Chair. Mr. Ewing opened the meeting and reviewed the topics on the agenda.

William Guyker raised the issue of high oil prices and why biomass fuels are not being used as an alternative on a more widespread basis.

Kim Kristoff, Robert Dorsch, and Terry Jaffoni responded that oil prices have not yet reached the levels or had the economic impact as occurred in the 1970's. William Carlson explained that the 1970's oil crisis was a result of political problems, whereas now it is an issue of limited resources, and should therefore be dealt with.

Tom Ewing, John Wootten, and William Guyker discussed the increasing oil and coal demands of India and China. Mr. Wootten cited a West Virginia University report on global coal demands.

Larry Walker stated that the response to the oil issue needs to be multidimensional and should include environmental sustainability, rural development, and other issues as well.

Robert Dorsch said that obtaining the input of petroleum companies would be useful. William Nicholson responded that the forest industry has done this, and was told that the petroleum industry has no interest in having a source of ethanol. Larry Walker and Mr. Dorsch replied that they know of petroleum companies that are partnering with ethanol producers. Terry Jaffoni said that petroleum companies are interested in biomass-based fuels, as well as hydrogen, because they know that oil supplies will decline and prices

will reach a level so high that the traditional petroleum industry will not be sustainable without alternative resources and fuels. David Morris said that whether or not petroleum companies enter into ethanol production will depend on markets in California. There is interest in California to construct ethanol plants in order to reduce or eliminate Midwest imports. If California markets expand, petroleum companies will likely invest in ethanol production.

Chairman Ewing suggested considering this issue in the Committee's recommendations.

C. Update on Action Items from Last Meeting and Other Committee Business

Don Richardson, Designated Federal Officer, welcomed all to the meeting. Mr. Richardson discussed the Committee's quorum requirement. DOE Advisory Committee guidelines state that one more than one half of a Committee's members have to be present. In the case of this Committee, 16 members must be present. Because only 14 Committee members were present at this meeting, the meeting must be considered a subcommittee meeting. Any results of a subcommittee meeting must first be circulated throughout the entire Committee for approval before they may go to the Departments.

Don Richardson informed the Committee that its Charter will expire on November 21, 2004 and is therefore in the process of being renewed. Mr. Richardson described the Charter, stating that all of its contents come from the Biomass R&D Act of 2000 and that it is required to be updated every two years. If the Charter is not renewed, the Committee is not permitted to meet. The Charter is contained in *Attachment A*.

Don Richardson discussed the appointment of new members to the Committee. There are 13 members whose terms expire on November 21, 2004. David Morris asked if there was a bylaw to ask those members who have not attended meetings to leave the Committee. Mr. Richardson replied that he has recognized this issue and is addressing it. Mr. Richardson also expressed the importance of finalizing the Committee's 2004 recommendations before the departing members' expiration date.

D. Presentation on DOE Strategic Direction

Don Richardson of the DOE's Biomass Program introduced Cindy Riley of the National Renewable Energy Laboratory (NREL) as the new program systems integrator. As systems integrator, Ms. Riley will support the planning and execution of complex R&D projects and to ensure the coordination of those projects.

Don Richardson gave a presentation on the Biomass Program's strategic direction that included a discussion of the program's mission and goals, the legislative and political drivers of the program, and a summary of some of the R&D being conducted through the program. The presentation can be found in *Attachment B*.

David Morris asked what EWD refers to. Mr. Richardson responded that it is Energy and Water Development Appropriations Sub-Committee. This subcommittee is responsible for appropriating some of the Biomass Program's annual funding.

Carolyn Fritz asked how much of the program's \$61 million budget went to the 2004 joint solicitation. Mr. Richardson responded that \$14 million went to the solicitation, but that some of that money is from FY 2005 funds because the awards were granted at the end of the fiscal year.

Ralph Cavalieri asked whether or not earmarks suggest that Congress is unhappy with how the program is choosing to spend its budget. Mr. Richardson replied that sometimes that is the case, but the large number of Biomass Program earmarks has to do with wide interest across Congress in the issue.

William Guyker asked, if the DOE submits its own budget request, why Department of Interior funds affect the Biomass Program budget. Mr. Richardson replied that Interior funds refer to funds appropriated by the Interior Appropriations Subcommittee that are directed to a number of programs within DOE, not funding from the Department of Interior.

Terry Jaffoni asked if the results of the 2002 and 2003 joint solicitation projects have been published. Mr. Richardson replied that several of the 2003 projects are four year projects that are not yet complete, and that intellectual property rights affect the ability to publish results, but that he would work on trying to get non-intellectual property information released. Cindy Riley responded that reports on the projects are available as part of the statement of work, but that CRADA information on projects is protected for five years. Once the five years are up, information is often requested through the Freedom of Information Act.

Larry Walker asked about the two DOE solicitations currently active. Mr. Richardson responded that the Biomass Program recently released a university and a products solicitation. Information about these solicitations can be found at the following sites: http://www.eere.energy.gov/biomass/news_detail.html/news_id=8148 and http://www.eere.energy.gov/biomass/news_detail.html/news_id=8173, respectively.

Carolyn Fritz asked whether or not getting ethanol into the market was part of the demonstration project initiative. Cindy Riley, Melissa Klembara of BCS, and Mr. Richardson responded that Larry Russo of the Biomass Program held a deployment meeting to work on the issue. William Nicholson asked for the results of that meeting. Mr. Richardson replied that he would work with Mr. Russo to get the information to the Committee.

Ralph Cavalieri asked whether or not DOE recognizes work by land grant universities. Mr. Richardson responded that Jim Fisher of DOE serves on a board of directors that works with land grant universities. Cindy Riley replied that NREL recently gave a briefing to a group of land grant representatives.

David Morris asked if the future direction of the Biomass Program involves work with USDA. Mr. Richardson said that DOE does not work closely with USDA as far as strategic direction is concerned, but that the two agencies are working together on the forest initiative aspect of the biorefinery work. Mr. Richardson also discussed the interagency R&D Board that contains members from DOE, USDA, and several other agencies.

E. Presentation on USDA Strategic Direction

Glenn Carpenter of USDA gave a presentation on USDA's strategic direction that described the differences between USDA and DOE's focus and organization, described the various agencies within USDA that conduct biomass-related work, and listed potential topic areas for the USDA portion of the 2005 joint solicitation. The presentation may be viewed in *Attachment C*.

William Guyker asked what USDA's definition of feedstock included. Mr. Carpenter replied that USDA works with all types of feedstocks, including corn stover, switchgrass, and black willow, in 160 different applications.

Terry Jaffoni said that in the areas of biobased products and environmental and economic performance, a full life-cycle analysis is needed, but that she did not see any money going to this area of research in the last solicitation. John Hickman responded that life-cycle analysis was a large topic in earlier solicitations and that this research may show up in the individual platforms rather than in its own topic area. Cindy Riley replied that life-cycle analysis and environmental assessment were part of the scoring criteria in the biorefinery solicitation.

Ralph Cavalieri asked if the funding amounts presented referred to the only the joint solicitation, or to other areas as well. Mr. Carpenter said that the funding amounts pertained only to the joint solicitation.

William Carlson asked how USDA selected projects if their biomass work is so unfocused. Bryce Stokes of USDA replied that biomass work is pulled together very well within the USDA agencies and that there are interactions between all of the agencies. Mr. Carpenter explained that the focus of each agency varies, and that biomass work within each is therefore difficult to compare.

David Morris asked about a lack of USDA data in two areas: 1) cost assessment of all digesters, and 2) rate of soil erosion associated with cornfields. Mr. Carpenter replied that he is unaware of any numbers on digesters, but cited a national symposium on digester technology that took place last year. The symposium proceedings may contain such data. He also said that he is sure that soil erosion data is available and that he would look into the issue.

Terry Jaffoni explained that the Committee struggles to understand how USDA funds are being spent. An analysis of the increases and decreases in funding in specific areas over

time, and a rationale on what is being done within each of the different agencies would help the Committee. Ralph Cavalieri added that the Committee needs a more comprehensive understanding of what USDA does so that it can identify the gaps in its work, and asked if such a review of gaps exists. Mr. Carpenter replied that it does not, but that the joint solicitation helps USDA to do this. Larry Walker said that he understands that USDA's activities are diffused, but that the Committee needs to see how its recommendations have been implemented.

The Committee took a 15-minute break.

F. Presentation on Subcommittee Review of USDA and DOE Portfolios

Mike Manella of BCS, Incorporated gave a presentation on the work of the subcommittee established at the July 2004 Committee meeting to conduct an analysis of USDA and DOE biomass portfolios. The presentation included a description of the subcommittee's task, the Departments' response to the Committee's request for information, and a summary of the portfolio analysis. The presentation is included in *Attachment D*. The complete portfolio analysis is included in *Attachment E*.

Ralph Cavalieri asked if USDA had earmarks. Mr. Manella replied that the analysis did not classify earmarked funds for USDA. Glenn Carpenter said that he does not think they exist in biomass categories. He explained that CSREES could not break down its figures any further because not all of its funds have been accounted for yet.

David Morris raised the issue of the scope of the Committee. He explained that a previous chairman said that it was limited to the joint solicitation, as stated in the Biomass R&D Act of 2000, but asked if this should be extended. Don Richardson agreed that the scope of the Committee should be the entire biomass program, not just the joint solicitation.

Larry Walker pointed out that not all of the funds reported in the USDA analysis involve R&D. Terry Jaffoni replied that the Committee has discussed whether or not policy and incentives belong in the scope of the Committee and have agreed that they do. Jim Goff of USDA said that part of the difficulty arises because USDA is not an R&D based agency.

Carolyn Fritz, who chaired the subcommittee, explained that when the subcommittee met to develop a method by which to conduct this analysis, they agreed that a method of reporting that is useful to the Committee but manageable to the Departments and that could be updated regularly is needed. Ms. Fritz suggested that the Committee agree on a format to use for such analysis.

Ralph Cavalieri asked if the numbers used in the analysis were direct federal expenditures, to which Mr. Manella replied that they were. Mr. Cavalieri said that, depending on who conducts the R&D, different amounts of information will come from the investments, and that this is a problem not accounted for in the analysis. Larry

Walker disagreed, stating that addressing such an issue would complicate the analysis too much. He said that the Committee has oversight on Federal R&D, and should not be concerned with other funds. Mr. Cavalieri responded that the Committee could make false recommendations if it does not understand where Federal funds are being directed. William Nicholson replied that he disagrees with both Mr. Cavalieri and Mr. Walker, and stated that the Committee is not narrowly focused on R&D only, but also on policy, procurement, incentives, etc, and that what needs to be addressed is which of these areas have received no funding.

John Wootten said that he thought the R&D by Roadmap Category matrix was the most helpful document. He said that the document could be improved by adding a column for the dollar amount spent in each area. Kim Kristoff agreed that such a document would be helpful, but warned that the Committee should not be weighed down by these details. He said that the focus of the Committee should be to determine the direction of the R&D funding, results, and contribution to goals.

Carolyn Fritz asked that the Committee recognize everyone who provided input to and conducted the portfolio analysis. Chairman Ewing acknowledged those involved.

G. Review of Committee Comments during July 2004 Meeting on Recommendations on the 2004 Joint Solicitation

Vice-chair Terry Jaffoni opened discussion on the recommendations on the 2004 joint solicitation process.

Chairman Ewing asked if the Committee would like to begin the recommendations by vocalizing frustration about the Committee's scope and the need for more information from the agencies.

Terry Jaffoni said that she would like to put forward two questions: 1) what is the format that the Committee would like to see agency information updated in regularly? and 2) what is the oversight of the Committee? Ms. Jaffoni believes that the Committee focus is broader than the joint solicitation, but would like to know what the Committee thinks. Larry Walker responded that he would like to know the portion of program funds for which the Committee has responsible. Tom Binder said that he would like the Committee to comment on the balance of the agencies' overall portfolios, but that it would help if portfolio information was divided into R&D projects versus education and incentives. David Morris replied that it should be made clear that the Committee does not have control over anything, but has charge and visibility. Robert Dorsch replied that the Committee does have some influence over the joint solicitation process.

Vice-chair Jaffoni refocused the discussion to the 2004 joint solicitation recommendations. The draft recommendations that were developed at the July 13 – 14, 2004 Committee meeting were projected on the screen for review. The Committee reviewed each recommendation. The final set of recommendations on the 2004 joint

solicitation process that will go forward for review by the entire Committee is included in *Attachment F*.

The Committee broke for lunch.

H. Review of Committee's Comments during July 2004 Meeting on Recommendations for 2005 Joint Solicitation Technical Topic Areas

Chairman Ewing and Vice-chair Jaffoni announced that the 2004 joint solicitation recommendations would be condensed and sent to the Committee for review, and that they would like to move on to a discussion on the 2005 joint solicitation technical topic areas. The draft recommendations on the 2005 joint solicitation technical topic areas that were drafted at the July 13 – 14, 2004 were placed on the screen for review. The Committee discussed each recommendation. The final list of recommendations on the 2005 joint solicitation technical topic areas that will go to the entire Committee for review is included in *Attachment G*.

Once the list of recommendations on the 2005 joint solicitation technical topic areas was completed, the Committee decided that each member should vote for his or her top five topics. A longer list of recommendations would not be useful to the Agencies because the solicitation is not large enough to include all of the topics. Chairman Ewing directed the staff to consider this when sending the recommendations out for review.

Several Committee members expressed concern that the Committee's work and recommendations were not as productive this year as in previous years. Vice-chair Jaffoni asked the Committee if anyone had any suggestions on how to improve the recommendation process for next year. David Morris suggested that it would be more effective for the Committee to prioritize a few major goals each year, allow each member to voice an opinion on them, then move on to other topics. John Hickman pointed out that the Committee's job is getting harder as they have more projects and material to review each year. John Wootten said that he believes the process will get easier as the Committee gains a better understanding of the Agencies' programs. Larry Walker said that he prefers the current method of developing recommendations because everyone has a say and a vote.

The Committee broke for 15 minutes.

I. Review of Committee's Comments during the July 2004 Meeting on Overall Recommendations to the Secretaries of Energy and Agriculture

Vice-chair Terry Jaffoni opened discussion on the overall recommendations to the Secretaries. The draft recommendations developed at the July 13 – 14, 2004 were placed on the screen for review. The Committee reviewed and adjusted each recommendation. The final list of 2004 Recommendations to the Secretaries of Energy and Agriculture that will go forward to the entire Committee for review is included in *Attachment H*.

J. Discussion on Topics to Include in the 2005 Committee Work Plan

Vice-chair Terry Jaffoni asked the Committee to brainstorm topic areas that they would like to include in the Committee's 2005 Work Plan. Several members suggested topic areas as staff captured them on the screen. The full list of suggested topic areas is included in *Attachment I*.

K. Adjournment

Chairman Ewing asked for any public comment. None was made.

Chairman Ewing discussed the date for the next meeting. It was decided that the next meeting will not take place until the new Committee members are appointed. A tentative date of March 2005 was set, but Chairman Ewing and Don Richardson will be in contact to select a date.

The meeting was adjourned.

ADDENDUM A

Biomass Research and Development Technical Advisory Committee Meeting September 29, 2004

ATTENDEES

Committee Members Present

Tom Ewing, Chair
Terry Jaffoni, Vice-chair
Tom Binder
William Carlson
Ralph Cavalieri
Robert Dorsch
Carolyn Fritz
William Guyker

John Hickman
Kim Kristoff
David Morris
Bill Nicholson
Larry Walker
John Wootten

Committee Members Not Present

Wayne Barrier
Roger Beachy
Robert Boeding
Jerrel Branson
Dale Bryk
Joseph Chapman
Roger Fragua
Charles Goodman

Brian Griffin
Pat Gruber
William Horan
Jack Huttner
Gary Pearl
Delmar Raymond
William Richards
Philip Shane

Federal Employees Present

Mike Kossey – USDA
Glen Carpenter – USDA
Carol Kramer-LeBlanc – USDA
Jim Goff – USDA
Bryce Stokes – USDA
Chavonda Jacobs-Young - USDA
Paul Grabowski – DOE
Cindy Riley – NREL

Total Public Attendees – 9

Total Attendees – 32

Designated Federal Officer – Don Richardson

ADDENDUM B

**Public Meeting of the
Biomass Research and Development Technical Advisory Committee
September 29, 2004
Crystal City Hilton Hotel, Decatur Room
Arlington, VA**

Previous decisions or actions related to this agenda:

At the July 13 – 14, 2004 meeting, the Committee heard presentations for and against funding for the hydrogen initiative. As a result, the Committee developed a position on hydrogen that is now posted at www.bioproducts-bioenergy.gov. The Committee also received a presentation on the process and results of the 2004 joint solicitation, drafted recommendations on the process, awards, and R&D being done through the solicitation, and began developing recommendations on evaluation criteria and technical topic areas for the 2005 solicitation. Finally, the Committee identified additional topics to include in their 2004 Recommendations to the Secretaries of Agriculture and Energy. The Committee requested that a review of the USDA and DOE project portfolios in relation to the Roadmap be presented at the September meeting so that they can make more informed recommendations. In so doing, the Chairman requested that the agencies provide information on their R&D portfolios and that a subcommittee, lead by Carolyn Fritz, meet to review the information provided by the agencies.

Prior to today's meeting, the Committee should have received the following documents:

- Subcommittee USDA and DOE Portfolio Analysis
- Updated version of the matrix mapping projects awarded under the joint solicitation to the Committee's *Roadmap*
- Tracking of *Vision* Goals document
- 2003 Recommendations to the Secretaries report
- Results of the 2004 joint solicitation
- Copies of the draft recommendations developed at the July meeting
- Summary of the OBP MYTP
- Copy of the Biomass R&D Act

Description of subjects of this meeting:

The agenda for this meeting will include a discussion on the Committee's 2004 recommendations to the Secretaries of Agriculture and Energy. The recommendations will focus on the results of the 2004 joint solicitation, the process and topics for the 2005 joint solicitation, and overall recommendations on the progress of the USDA and DOE in meeting the goals defined in the *Vision* and *Roadmap* documents. The Committee will also begin developing a 2005 Work Plan. Specifically the Committee will:

- Hear presentations on USDA and DOE program direction.
- Hear from the Subcommittee on its review of the USDA and DOE project portfolios.
- Review the recommendations on the 2004 and 2005 joint solicitations and overall recommendations from the last meeting.
- Discuss, refine, and finalize recommendations for the 2004 Recommendations to the Secretaries of Agriculture and Energy.
- Discuss topics to cover in the 2005 Work Plan and begin developing the Work Plan.

Agenda

September 29th - Biomass R&D Technical Advisory Committee Meeting

- 8:00 – 8:30 Continental Breakfast
- 8:30 – 8:45 Welcome and Overview of Agenda – *Thomas Ewing, Committee Chair*
- 8:45 – 9:15 Update on Action Items from Last Meeting and Other Committee Business -*Don Richardson, Designated Federal Officer*
- Committee Business
 - Charter
 - Updated R&D Matrix
- 9:15 – 9:55 Presentation on USDA and DOE program direction – *Don Richardson, DOE and Glenn Carpenter, USDA*
- 9:55 – 10:10 Break
- 10:10 – 10:40 Presentation on Subcommittee review of USDA and DOE portfolios- *Carolyn Fritz, Subcommittee Chair and Michael Manella, BCS, Incorporated*
- 10:40 – 11:10 Open Discussion
- 11:10 – 11:20 Review of Committee comments during July 2004 meeting on Recommendations to the Secretaries – *Terri Jaffoni, Committee Vice Chair*
- Joint Solicitation process
 - Awards made under the joint solicitation
 - Recommended topics for 2005 joint solicitation
 - Additional recommendations to the Secretaries of Energy and Agriculture
- 11:20 – 12:00 Round Robin on Committee Recommendations - *Terry Jaffoni, Committee Vice Chair*
- 2004 joint solicitation process and awards
 - 2005 joint solicitation
 - USDA/DOE R&D Portfolio
- 12:00 – 1:00 Lunch
- 1:00 – 2:00 Continue Round Robin and/or Open Discussion as needed - *Terry Jaffoni, Committee Vice Chair*
- 2:00 – 2:15 Break
- 2:15 - 3:00 Finalize Committee Recommendations – *Tom Ewing, Committee Chair*
- 3:00 – 4:30 Discussion of topics to cover in the 2005 Work Plan – *Terry Jaffoni, Committee Vice Chair*

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| 4:30 – 4:45 | Public Comment |
| 4:45 – 5:00 | Discussion of topics for next meeting – <i>Tom Ewing, Committee Chairman</i> <ul style="list-style-type: none">- Meeting with Biomass R&D Board/Next Meeting- Additional topics |
| 5:00 | Adjourn |